

STUDIES ON THE GENUS *APHODIUS* OF THE UNITED STATES AND  
CANADA (COLEOPTERA: SCARABAEIDAE): II.  
A NEW SPECIES FROM GEORGIA

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ABSTRACT—A new species of *Aphodius* from Georgia, *A. fordii*, is described and the probable rodent host discussed.

The *Aphodius* fauna of the eastern United States is comparatively well known, and presumably few undescribed species remain in the region. It is surprising that a species as distinctive as the one described herein from Jekyll Island, Georgia, should not have been discovered previously. The specimens were collected at light but it is unlikely that this species is normally attracted to light. *Aphodius fordii* almost certainly lives with some species of burrowing rodent as do other similar appearing species of North American *Aphodius*. The rodent most likely to harbor this species of *Aphodius* is some species of *Geomys*. *Geomys cumberlandius* Bangs is known only from Cumberland Island, Georgia, which is immediately south of Jekyll Island. *Geomys colonus* Bangs is known only from the mainland adjacent to Jekyll Island. Since no specimens of *Geomys* from Jekyll Island itself are available, it is assumed that either *cumberlandius* or *colonus* occurs there and provides the niche for this particular *Aphodius*.

I am indebted to Henry Howden for taking the electron scanning photographs presented here and to Kate Conway for preparing the drawings of genitalia.

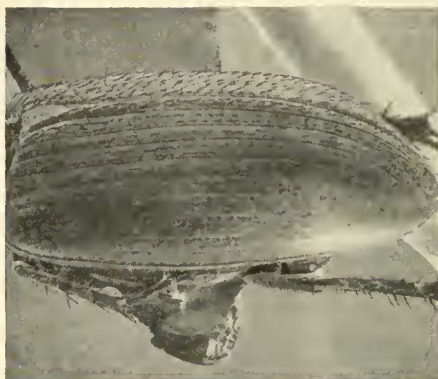
*Aphodius fordii* Gordon, new species  
fig. 1-6

Holotype: Male, length 3.34 mm, greatest width 1.49 mm. Form elongate, slender, somewhat flattened (fig. 1). Color of head and pronotum nearly black medially, reddish brown toward lateral margin and apex of clypeus; elytron dark yellowish brown; venter light yellowish brown. Head smooth, feebly shining, finely alutaceous except basal fourth polished, finely punctured, punctures separated by 1 to 3 times their diameter; anterior margin of clypeus narrowly reflexed, feebly emarginate medially, lateral angle smoothly rounded (fig. 3); gena with small clump of long setae anterior to eye. Pronotum feebly shining, distinctly alutaceous; long, sparse setae present on surface near lateral margin, large and small punctures intermixed on each side of middle, large punctures becoming dense laterally, separated by less than to twice a diameter, anterolateral angle abrupt, lateral margin feebly curved, crenate, fringed with long, sparse

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Fig. 1-4, *Aphodius fordi*. 1, habitus. 2, elytra. 3, head and pronotum. 4, hind leg with apical spurs.

setae, posterolateral angle rounded, posterior border margined, with fringe of long setae (fig. 3). Elytron dull, strongly alutaceous, intervals broad, flat, with 2 irregularly interrupted rows of seta-bearing tubercles, striae lightly impressed, stria punctures fine, widely separated (fig. 2), most setae decumbent, except sutural, third, fifth, seventh and ninth intervals with some widely spaced, erect setae. Ventral surface generally shining, becoming duller, more alutaceous laterally; metasternum smooth, punctures extremely fine, nearly invisible. An-



Fig. 5 and 6, *Aphodius fordi*, male genitalia, ventral and lateral views.

terior tibia with outer teeth strong, posterior tooth basad of middle of tibia, apical spur slender, slightly curved, as long as first 3 tarsal segments; apex of hind tibia fringed with unequal spines, outer spur  $\frac{3}{4}$  the length of inner, apex curved, pointed, inner spur nearly as long as first tarsal segment, irregularly sinuate on inner margin (fig. 4). Anterior tarsus with basal segment nearly as long as segments 2 and 3, segments 2-4 equal, fifth segment as long as segments 2-4 combined; middle and hind tarsi with basal segment nearly as long as segments 2-4 combined, segments 2-4 subequal, fifth segment one and one-half times as long as fourth. Abdominal sterna finely punctured, feebly alutaceous, pubescent. Genitalia as in figures 5 and 6.

Allotype: Female, length 3.10 mm, greatest width 1.43 mm. Not separable from male on external characters.

Type material: Holotype, Georgia, Jekyll Island, 17-VII-1971, E. J. Ford, Jr., light trap (USNM 72835). Allotype and 2 paratypes with same data as holotype deposited in the collections of E. J. Ford and in the USNM.

Remarks: Few North American species of *Aphodius* have the elytra entirely pubescent. Of these, *A. sepultus* Cartwright most nearly resembles *fordi*, but *sepultus* has the head and pronotum densely, coarsely punctured and very rough. *Aphodius sepultus* is known only from the burrows of *Geomys bursarius attwateri* Merriam in Texas. The only eastern species of *Aphodius* that resembles *fordi* is *stupidus* Horn which is much larger, has a tuberculate head and erect elytral pubescence. *Aphodius stupidus* feeds mostly on deer dung and is not associated with a rodent. In Horn's (1897) key to the U.S. species of *Aphodius*, *fordi* falls in group II with *stupidus*. In Schmidt's (1922) key to the subgenera of *Aphodius*, *fordi* does not fit anywhere as the

combination of characters possessed by *fordi* were not defined by Schmidt. For comments on Schmidt's key see Gordon (1973).

#### REFERENCES

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**A classification above species level of the Genus *Lachesilla* Westwood (Psocoptera: Lachesillidae).** Alfonso N. García Aldrete. 1974. Folia Entomológica Mexicana, No. 27:88 pp., 278 figs. Sociedad Mexicana de Entomología, Apart. Postal 31-312, México 7, D. F.

This paper is the most important to date of several publications on psocids by Dr. García Aldrete, of the Instituto de Biología, Universidad Nacional, Mexico City. It is significant because it demonstrates the richness of species of one of the largest genera of Psocoptera and the way a classification of species groups has been developed to accommodate diverse species instead of establishing a large number of new genera. It also marks the arrival of another member of a growing list of experienced and skilled specialists in Psocopteran systematics.

The genus *Lachesilla*, richest in Mexico and the southern United States, now includes 229 species. Sommerman recognized 24 Nearctic species in 1946, and Smithers' 1967 Catalogue listed a world fauna of 61 species. Several species are encountered frequently by general collectors in the United States. García Aldrete recognizes 3 divisions and 18 species groups; each group consists of a cluster of species distinguished by a number of characters, almost all genitalic. Psocidologists tend to utilize such groupings as an alternative to an excess number of genera. The techniques for mounting and studying the fine genitalic structures of both sexes have now been well developed, a far cry from the time when dry shriveled specimens were the principal samples of psocids preserved.

In this paper, about two-thirds of which consists of illustrations, the diagnoses of groups are fully explained, with a list of species assigned to each. An effort has been made to present a useful outline of the apparent evolutionary pattern in the speciation within *Lachesilla*. New species, 166 in number, will be described and named in later publications.

Concerning the author, Dr. García Aldrete has been studying psocids for about 10 years and has collected widely in Mexico and parts of the United States. He studied with Dr. E. L. Mockford at the Instituto Tecnológico in Monterrey, Mexico, and at Illinois State University, Normal, Illinois, and he has utilized extensive collections through Dr. Mockford's cooperation. I wish him every success in completing the remaining papers dealing with *Lachesilla*.

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